

**State of California
AIR RESOURCES BOARD**

**Joint Meeting with the Board and the
Research Screening Committee
To Present the Planned Air Pollution Research
Fiscal Year 2005/2006**

**AGENDA
Cal/EPA Headquarters Building
1001 I Street
Conference Room 510
Sacramento, California 95814
(916) 445-0753**

**July 21, 2005
9:00 a.m.**

ADVANCE AGENDA

Interagency Proposals

1. "Follow-on development of CARBITS", University of California, Davis, \$100,000, Proposal No. 2587-249

ARB anticipates that consumer response will be an important issue in future regulations affecting passenger vehicles. Automobile manufacturers and their consultants raised this issue during development of the ZEV regulation and the climate change regulation. So it is worthwhile to continue to upgrade CARBITS, ARB's in-house model of consumer response in the passenger vehicle market.

The focus of this project is to upgrade CARBITS, by incorporating recent survey data and improving some of the model's features. It is important to continue to improve CARBITS because has received a great deal of attention from the public, and the stakeholders. CARBITS will be an integral part of analyzing future proposed regulations that have an impact on passenger vehicle price or attributes.

2. "Assessment of Health Impacts of Particular Matter from Indoor Sources", University of California, Davis, \$399,998, Proposal No. 2588-249

Exposure to ambient particulate matter (PM) in California contributes to thousands of premature deaths and serious adverse health impacts such as respiratory and cardiovascular diseases. Indoor sources can result in elevated indoor PM concentrations, and several toxic components have been detected in PM from indoor sources. Consequently, PM of indoor origin may have a significant health impact. Therefore, the ARB is interested in investigating the potential health impacts of PM from

key indoor sources to determine whether reductions in indoor PM emissions are needed to more effectively reduce PM exposure and risk.

The objective of this study is to determine the potential impact of PM of indoor origin on human health, using chemical and biological assays. This study should enable the ARB to understand the relative toxicity of major indoor PM sources. It should also provide insight into the types of chemicals responsible for their toxicity.

3. "Responses to Short-term Fluctuations in Particulate Air Pollution in Asthmatic Children: Implications for Asthma Natural History", University of California, Berkeley, \$350,000, Proposal No. 2591-249

The Fresno Asthmatic Children's Environment Study (FACES) is the first project funded through the Vulnerable Populations Research Program, which is designed to study California residents who may be more sensitive to the health impacts of air pollution. FACES is designed to examine the acute and chronic health effects of particulate air pollution, in combination with other ambient air pollutants and bioaerosols, on the natural history of asthma in young children residing in the Fresno County region of California. Both a high prevalence of asthma among an ethnically diverse population and high levels of ambient air pollution, especially PM, have been noted in the Fresno County region. This project is composed of two fully integrated components: an epidemiological health component and an exposure assessment component. The objective of the health component is to collect detailed descriptive data on the subjects, including but not limited to reports of symptoms, daily measures of lung function, and use of asthma medication. The objective of the exposure assessment is to collect detailed air pollution data at centrally located ambient monitors, mobile trailers placed in schools, and in the homes of selected participants to accurately characterize exposure to air pollution. The combination of these data will allow investigators to assess how repeated day-to-day responses to air pollution affect long-term respiratory health and disease in an asthmatic cohort of children living in a high PM region.

The overall study was designed as a 66-month project; however, ARB funded the project in two phases, with funding for the second phase contingent on satisfactory progress during the first phase. This proposal is for a continuation of the project through January 2006. Following this period funding through the National Heart Lung Blood Institute of the NIH is expected to be available (An application for funding through the NHLBI to extend the project through the year 2010 was originally submitted in October 2004. The application received a score somewhat below the funding level; a revised proposal has been submitted for the July application period. The investigators are very confident that, by addressing the comments on the initial application, they will be successful in this round.)

4. "Environmental Justice Saturation Monitoring of Selected Pollutants in Wilmington", Desert Research Institute, \$399,994, Proposal No. 2589-249

Air quality data are essential to characterize a community's exposure to air pollutants; however, air quality data (e.g., criteria pollutants and air toxics) collected at any Environmental Justice (EJ) community are very limited, typically at relatively few (one to five) locations due to the cost of traditional monitoring technologies. Thus, there is a concern that air quality monitoring location(s) may not reveal exposure to hotspots. In addition, the spatial resolution of most air quality data is relatively coarse (a single monitor for tens of square miles) compared to the spatial resolution of socioeconomic status (SES) data at census tract level. To capture real exposure in the community, air quality data of finer spatial resolution that are compatible with SES data are needed.

This project is intended to complement the Pastor et al. project that was recently developed and funded by the California Air Resources Board and the California Energy Commission. This includes collection of extensive spatial and temporal data to identify hotspots of selected pollutants in Wilmington and determine the concentration gradient in areas primarily impacted by stationary as well as mobile and area sources. The data set collected from this project will be combined with SES data for EJ analysis and allow comparisons with existing emission inventory and dispersion modeling results. The outcome of this project is expected to improve our understanding of actual exposure level at an EJ community and the methodology developed from this project is expected to be applicable to other EJ communities.

5. "Survey of the use of Ozone-generating Air Cleaners by the California Public", \$99,997, University of California, Berkeley, Proposal No. 2590-249

Portable indoor air cleaning devices that emit ozone, either purposely or as a by-product of the ionizing technology used to remove particles, have been heavily marketed to Californians through the media and direct mail in recent years. Some of these devices have been shown to emit ozone at rates that can quickly produce concentrations up to several times the outdoor health-based standard levels. However, there is little, reliable, publicly available information on the percent of Californians who use ozone-generating air cleaners in their homes. Significant numbers of people may be at risk even if the devices are owned by a relatively small percentage of the population, because there are usually several members per household, and the devices are often marketed to those most sensitive to the adverse effects of ozone.

The objective of this survey is to estimate the incidence of, and factors surrounding, the purchase and use of ozone-generating air cleaners in California, especially those devices that are designed to purposely emit ozone. To accomplish this, a telephone survey of adults in California will be conducted. Expected results will be a representative data set and estimate of the number of air cleaners owned and used in California households, by model and type; the reasons for their purchase and use; the frequency and duration of use; users' knowledge of the devices' functions and

knowledge of alternatives; and other relevant information. The results of this project will provide information useful for an active public outreach and education program to better inform the public of the dangers inherent in the use of ozone-generating air cleaners, and for possible state actions to limit ozone emissions from air cleaners and/or to address marketing claims.

Other Business

6. Research Planning Process
7. Executive Office Meeting
8. Action Update